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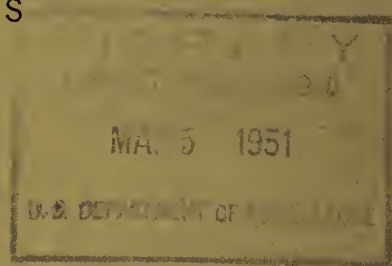


FEDERAL - STATE COOPERATIVE  
SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for  
**Oregon**

By

Division of Irrigation, Soil Conservation Service  
United States Department of Agriculture  
and  
Oregon Agricultural Experiment Station



As of  
FEB. 1, 1951

Data included in this report were obtained by the agencies named above in cooperation with the Oregon State Engineer, U. S. Forest Service, National Park Service and other Federal, State and local organizations.



FEDERAL-STATE COOPERATIVE  
SNOW SURVEYS AND IRRIGATION WATER FORECASTS  
FOR  
OREGON

Report Prepared

by

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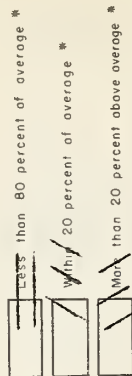
Division of Irrigation  
Soil Conservation Service  
and  
Oregon Agricultural Experiment Station  
P. O. Box 1149  
Medford, Oregon



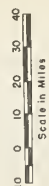
# INDEX TO SNOW COURSES

Number	Name	Elev.	Number	Name	Elev.	Number	Name	Elev.
UPPER COLUMBIA DRAINAGE								
Lower Snake in Oregon								
ONYHIE RIVER								
Nov. 6	Big Bend	6800	212	Tollgate	5070	551	Breitenbush	2325
Nov. 1	Buckskin, Lower	6800				522	Cascade Summit	4880
Nov. 2	Buckskin, Upper	8200				527	Champion	4500
952	Fish Creek	7900				351	Charlton Lake	3750
Nov. 7	Fry Canyon	6800				531	Hogg Pass	4755
Nov. 5	Gold Creek Ranger Sta.	6600	222	Emigrant Springs	3925	533	McKenzie	4800
Nov. 4	Granite Peak	8600	223	Lucky Strike	5050	541	Marion Forks	2730
Nov. 9	Jack Creek, Lower	7000	221	Meehan	4300	552	Mary's Peak	3620
Nov. 10	Jack Creek, Upper	7800	212	Tollgate	5070	521A	Santiam Junction	3990
Nov. 3	Martin Creek	7000						
Nov. 8	Rodeo Flat	7000						
Ida. 12	Silver City	6900	241	Arbuckle Mountain	5400			
951	Silvers	6900						
Ida. 13	South Mountain No. 22	6340						
Nov. 12	Taylor Canyon	5200						
MALHEUR RIVER								
			241	Arbuckle Mountain	5400			
			246A	Beech Creek Summit	4800			
			133	Blue Mountain Spring	5900			
			141	Blue Mountain Summit	5098			
133	Blue Mountain Spring	5900	244	Dixie Springs	6650	831	Billie Creek Divide	6018
137	Crane Prairie	5375	241	Gold Center	5340	834	Chemilt No. 1	4760
136	Lake Creek	5120	249	Izee Summit	5293	Calif.	Crowder Flat	5200
134	Rock Spring	5100	964	Snow Mountain	6300	723	Hyatt Prairie Reservoir	4900
135	Stinking Water	4800	245	Olive Lake	6000	835	Lake of the Woods No. 1	4960
			965	Snow Mountain	6300	811	Quartz Mountain	5320
			247B	Starr Ridge	5150			
BURNT RIVER								
143	Barney Creek	5950						
141	Blue Mountain Summit	5098						
156	Dooley Mountain	5430						
142	Tipton	5100						
POWDER RIVER								
			326	Caldwell Ranch	4400	911A	Camas Creek	5720
			321	Cascade Summit	4880	811	Quartz Mountain	5320
			327	Charlton Lake	5750	837	Strawberry	5600
			361	Clear Lake	3500			
			325	Crescent Lake	4760			
			343	Derr	5670			
155	Anthony Lake	7125						
154	Bourne	5800						
156	Dooley Mountain	5430						
151B	Ellertson Meadows	5400						
249	Cold Center	5340						
157	Coodrich Lake	6775						
184	Summit Springs	6000						
185	Taylor Green	5740						
PINE CREEK								
161	Schneider Meadows	5400						
INNAHA RIVER								
			431	Brooks Meadows	4300			
			434	Red Hill	4400			
			432	Tilly Jane-Mt. Hood	6000			
Coverdale								
171		4250						
GRANDE RONDE RIVER								
			361	Clear Lake	3500			
			453	Phlox Point-Mt. Hood	5600			
			451	Still Creek	3700			
ANEROID LAKE								
183	Aneroid Lake	7480						
183A	Aneroid Lake No. 2	7000						
188	Beaver Reservoir	7125						
187	Camp Carson	5970						
186A	Moss Spring	5850						
184	Summit Springs	6000						
185	Taylor Green	5740						
212	Tollgate	5070						
WILLAMETTE RIVER								
			551	Breitenbush	2325			
			321	Cascade Summit	4880			
			522	Champion	4500			
			327	Charlton Lake	3750			
			351	Hogg Pass	4755			
			531	McKenzie	4800			
			533	Marion Forks	2730			
			541	Mary's Peak	3620			
			552	Santiam Junction	3990			
			521A	Waldo Lake	5500			
KLAMATH LAKE BASIN								
			831	Annie Spring	6018			
			722	Billie Creek Divide	6000			
			834	Chemilt No. 1	4760			
			Calif.	Crowder Flat	5200			
			723	Hyatt Prairie Reservoir	4900			
			835	Lake of the Woods No. 1	4960			
			811	Quartz Mountain	5320			
			7211	Seven Lakes No. 1	6800			
			7212	Seven Lakes No. 2	6200			
			837	Strawberry	5600			
			841	Summer Rim	7200			
			836	Sun Mountain	5350			
			842	Taylor Butte	5100			
GOOSE LAKE BASIN								
			911A	Camas Creek	5720			
			811	Quartz Mountain	5320			
			837	Strawberry	5600			
WEST COAST DRAINAGE								
UMPUA RIVER								
			522	Champion	4500			
			743	Diamond Lake	5315			
			726	Goolaway Gap	3000			
			7215	Goolaway Mountain	3730			
			742	N.Jumpua near Lake Creek	4215			
			741	Trap Creek	3800			
			7217	Whaleback	5140			
ROQUE RIVER								
			7216	Althous	4400			
			831	Annie Spring	6018			
			729	Big Red Mountain	6500			
			722	Billie Creek Divide	6000			
			725	Fish Lake	4865			
			726	Goolaway Gap	3000			
			7215	Goolaway Mountain	3730			
			727	Grayback Peak	6000			
			7221	Robert Lake	5013			
			723	Hyatt Prairie Reservoir	4900			
			7210	Little Red Mountain	6500			
			7220	Scragg Mountain	6200			
			7211	Seven Lakes No. 1	6800			
			7212	Seven Lakes No. 2	6200			
			7219	Silver Burn	3720			
			728	Siskiyou Summit	4650			
			7218	South Fork Canal	3500			
			7213	Wagner Butte	6900			
			7217	Whaleback	5140			
INDEX TO THE CALIFORNIA OREGON POWER COMPANY SNOW WATER STATIONS								
KLAMATH LAKE BASIN								
			1	Beatty	4300			
			2	Chemilt	4761			
			3	Chiloquin	4187			
			4	Crystal	4200			
			5	Port Klamath	4150			
			6	Kirk	4533			
			7	Lake of the Woods	4960			
			8	Pelican	4200			
			9	Quartz Mountain	5504			
			10	Richardson Ranch	4800			
			12	Yamsey	4600			
GOOSE LAKE BASIN								
			9	Quartz Mountain	5504			

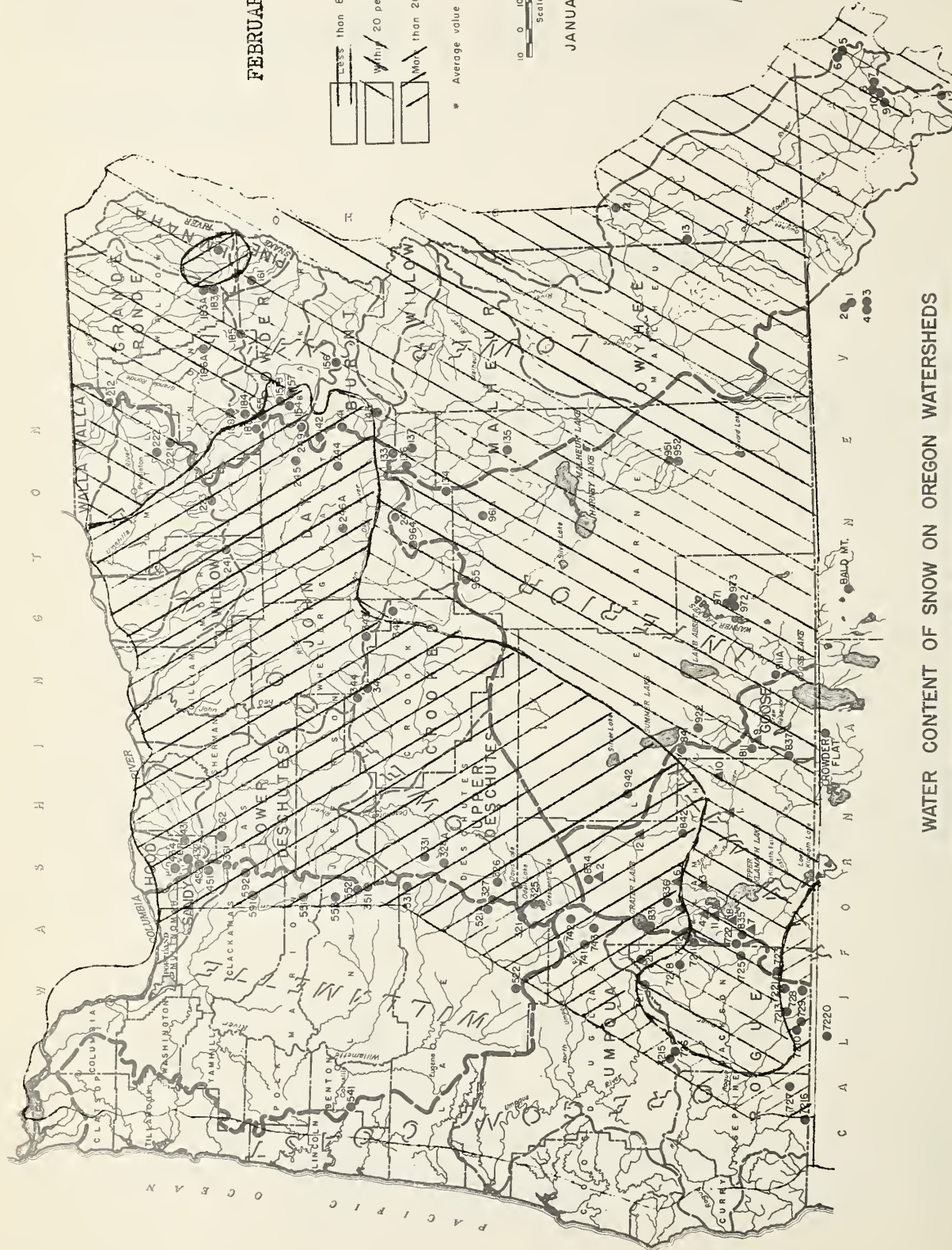
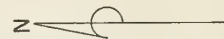
FEBRUARY 1, 1951



\* Average value for period of record



JANUARY 1, 1950



WATER CONTENT OF SNOW ON OREGON WATERSHEDS  
 BASED ON SNOW SURVEYS MADE ON APPROXIMATELY FIRST DAY OF MONTH

(Valley Lands Not Necessarily Included)

February 1, 1951

PRELIMINARY WATER SUPPLY OUTLOOK

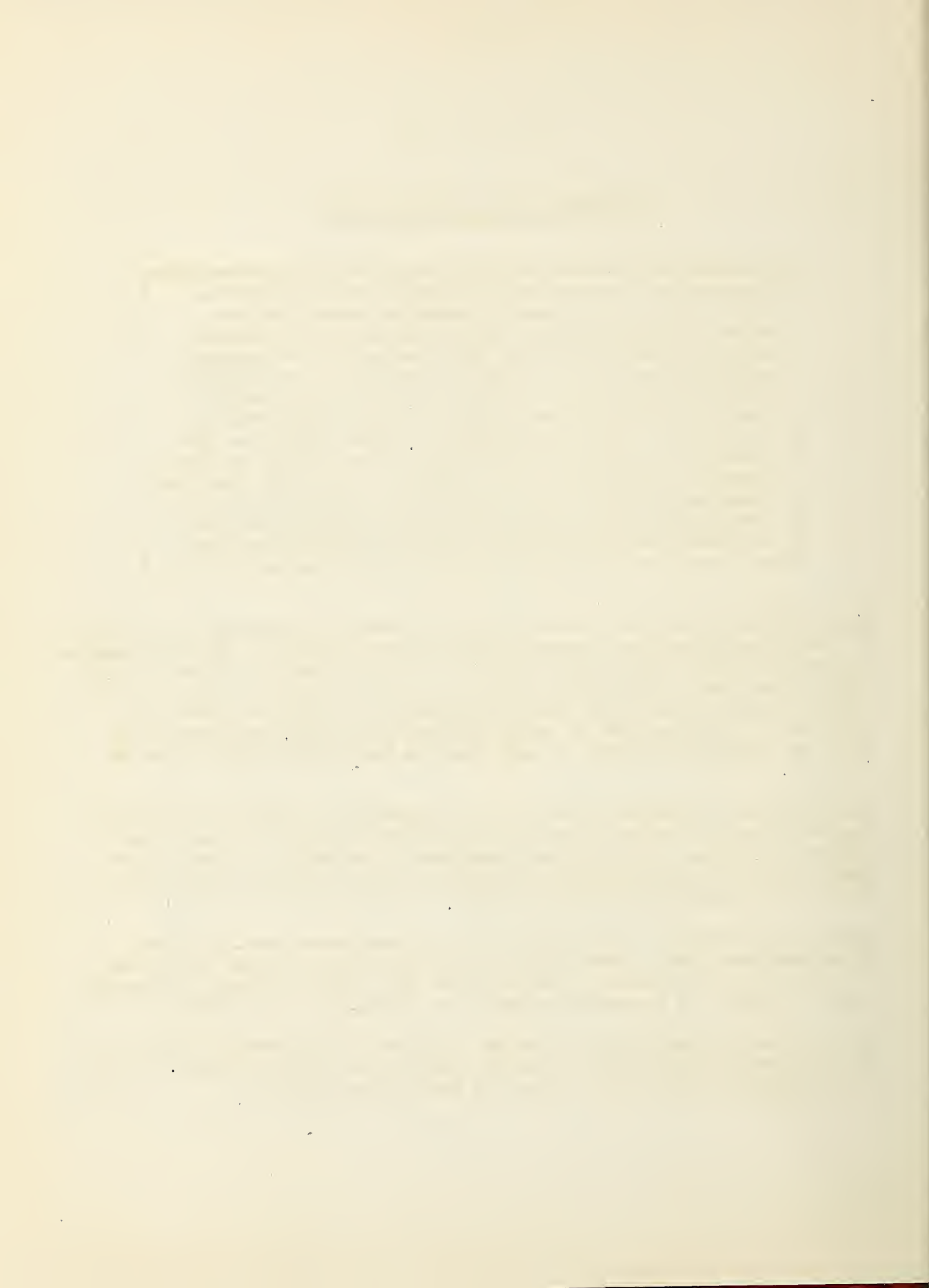
Oregon's 1951 water supply outlook, as of this mid-winter date, appears to be generally excellent except for the Owyhee, Silvies, Malheur and main Grande Ronde drainages and Bear Creek in the Rogue River drainage where mountain snow-cover has so far failed to accumulate to satisfactory depths sufficient to insure next summer's water needs. However, water users served from the huge Owyhee reservoir should have a sufficient supply. The snow blanket on the Cascades is from 120 to 175 percent of the average in water content. Reservoired water supplies are generally "good" to "excellent" except in the Clear Lake and Hyatt Prairie reservoirs which now hold "fair" supplies and the Warm Springs and Agency Valley reservoirs which have "poor" supplies.

Water content of mountain snow-cover, as of February 1, averages 131 percent of normal throughout the state with the heaviest accumulation in the Cascades. Abnormally heavy accumulations of snow at low elevations, so noticeable last winter, have been prevented this winter by general rains and milder temperatures. Water content of the snow below 5000 feet is about 68 percent of last year at this date but it is 141 percent of average. Snow above 5000 feet now contains 96 percent as much water as last year and 126 percent of average.

Watershed soils throughout the state are extremely wet. Many snow surveyors reporting the soil under the snow as "saturated" with little frost in the ground. The amount of melting snow required to "prime" the watershed next spring will be very small, hence a relatively larger portion of snow melt-water will be available for streamflow.

Total water stored in all reservoirs is 34 percent more than last year, 40 percent more than in 1949 and 13 percent more than average. Nearly two-thirds of the more important reservoirs are half full or better. Reservoirs in the Umatilla and Deschutes drainages are especially well filled.

A tabulation of preliminary streamflow forecasts is presented on pages 2 and 3 of this report. Other series of snow measurements and forecasts will be published in reports to be issued on March 9 and April 9.



PRELIMINARY STREAMFLOW FORECASTS, FEBRUARY 1, 1951

The following preliminary runoff forecasts are based on present mountain snow cover and on the assumption that average February and March increase of snow cover will occur. Greater or less than average increase in mountain snow cover during the next two months will correspondingly modify these estimates:

BASIN AND STREAM	Apr.-Sept., inc. Streamflow in Thous. A. F.				
	Forecast	Measured	Runoff	10-yr. Avg.	
	1951	1950	1949	1948	1940-49
<u>NORTHCENTRAL OREGON</u>					
Hood River, W. Fk. near Dee	190.0	228.6	225.1	158.1	142.4
Hood R. at Powerdale plus Power Canal	400.0	497.6	483.2	338.9	289.5
White R. below Tygh Valley	210.0	a	265.6	177.0	139.8
<u>UMATILLA-WALLA WALLA</u>					
Walla Walla R. So. Fk. nr. Milton	70.0	a	84.8	102.1	68.6
Umatilla R. at Pendleton	160.0	a	212.9	311.3	171.3
McKay Cr. above McKay Reservoir	24.0	a	22.7	63.4	29.6
<u>NORTHEASTERN OREGON</u>					
Grande Ronde R. nr. LaGrande	145.0	a	191.5	366.2	182.2
Catherine Creek near Union	62.0	a	73.0	109.9	70.2
Bear Creek near Wallowa	75.0	a	73.6	93.5	70.5
Lostine R. near Lostine	130.0	a	130.2	153.5	122.9
Hurricane Cr. near Joseph	46.0	a	48.6	59.4	45.2
Wallowa R. E. Fk. plus Power Pl.	11.6	a	11.3	15.7	11.3
Imnaha River at Imnaha	360.0	a	254.0	451.2	295.7
Burnt R. nr. Hereford (Natural Flow)	50.0	a	47.0	62.7	40.3
<u>EASTERN OREGON</u>					
Malheur R. Mid. Fk. nr. Drewsey	62.0	a	68.5	74.0	75.1
Malheur R. N. Fk. at Beulah	52.0	a	56.5	64.4	60.3
Owyhee R. above Owyhee Reservoir	400.0 <sup>c</sup>	a	530.5 <sup>c</sup>	280.6 <sup>c</sup>	492.9 <sup>c</sup>
Strawberry Cr. nr. Prairie City	7.0	a	8.3	11.0	8.4
<u>HARNEY BASIN</u>					
Silvies R. near Burns	62.0	a	79.1	133.1	94.2
<u>CENTRAL OREGON</u>					
Ochoco Reservoir Net Inflow	18.0	a	33.3	72.3	27.8
Crescent Lake Net Inflow	25.0	a	29.4	27.4	16.2
Odell Creek near Crescent	32.0	a	34.9	34.7	26.8
Tumalo Creek and C. S. Canal	55.0	a	58.1	53.2	45.4
Squaw Creek near Sisters	58.0	a	50.8	56.5	45.0

a - Discharge data not available

c - March-July rather than April-Sept.



(Continued)

BASIN AND STREAM	Apr.-Sept., inc. Streamflow in Thous. A. F.				
	Forecast	Measured	Runoff	10-yr. Avg.	
	1951	1950	1949	1948	1940-49
<u>SOUTHCENTRAL OREGON</u>					
Deep Creek Above Adel	65.0 <sup>b</sup>	a	71.4 <sup>b</sup>	70.8 <sup>b</sup>	60.4 <sup>b</sup>
<u>KLAMATH BASIN</u>					
Upper Klamath Lake Net Inflow	453.0	423.1	396.7	461.5	463.6
<u>SOUTHERN OREGON</u>					
Hyatt Reservoir Net Inflow	4.0	a	7.6	9.1	5.5
Fourmile Lake Net Inflow	7.0	a	8.5	11.0	7.5
Little Butte Cr. N. Fk. below					
Fish Lake (Natural Flow)	12.5	a	a	16.2	12.8 <sup>f</sup>
Rogue R. N. Fk. above Prospect	320.0	387.6	375.5	343.7	287.2
Clearwater River above Trap Creek	60.0	a	71.8	67.4	59.8
No. Umpqua R. below Lake Creek	155.0	a	183.0	174.3	154.2
<u>WILLAMETTE VALLEY</u>					
Willamette R. Mid. Fk. at Eula	920.0	a	1019.2	1025.9	755.0
McKenzie R. at McKenzie Bridge	650.0	771.8	716.4	646.4	525.4
McKenzie River near Vida	1350.0	1725.2	1516.7	1419.5	1116.7

a - Discharge data not available

b - April-June rather than April-Sept.

f - Excl. 1949



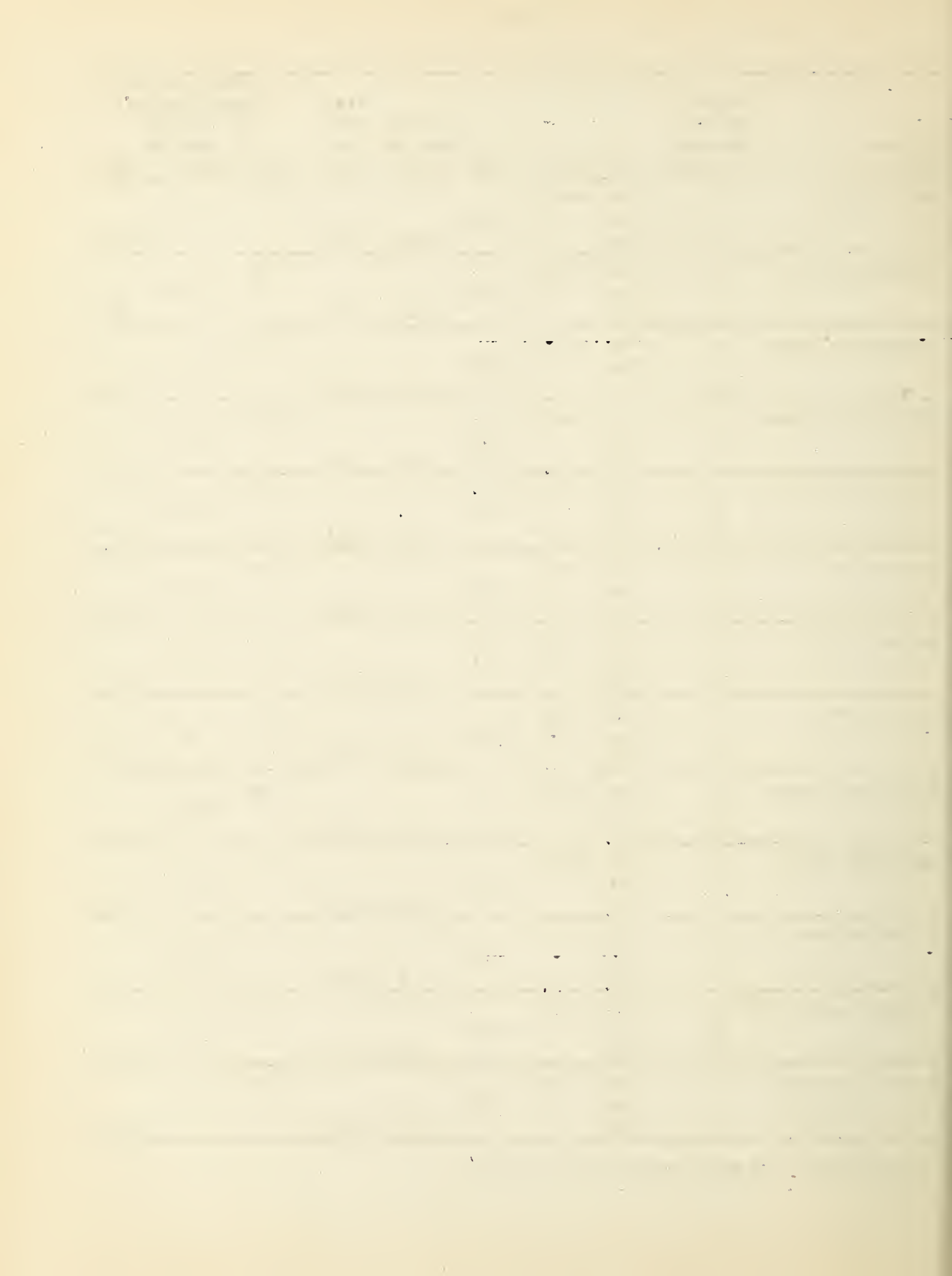
STATUS OF SNOW COVER AS OF FEBRUARY FIRST  
Summary of Snow Survey Data  
By Watersheds as of About February First

Stream Basin	Number of Snow Courses Averaged				Avg. Past yrs. of record	Yrs. of Rec- ord	1951 Snow Water Depth (Inches) as percent of that in		
		1951	1950	1949			1950	1949	Avg.
Owyhee River	5	6.7	6.5				103		
	4	8.6		9.3				92	
	6	7.7			7.8 (1-10)				99
Malheur River	3	6.3	6.1				103		
	3	6.3		7.2				88	
	3	6.3			5.7 (13-20)				110
Burnt River	2	7.0	6.4				109		
	2	7.0		8.1				86	
	2	7.0			6.0 (12-16)				117
Powder River	2	8.8	8.6				102		
	4	11.9		12.4				96	
	4	11.9			9.8 (10-12)				121
Pine Creek	1	20.6	17.6				117		
	1	20.6		21.3				97	
	1	20.6			18.7 (13)				110
Imnaha River	2	22.0	22.5				98		
	2	22.0		20.4				108	
	2	22.0			18.6 (9-21)				118
Grande Ronde River	7	13.8	16.1				86		
	8	13.9		19.3				72	
	8	13.9			13.8 (8-22)				101
Walla Walla River	1	18.9	20.5				92		
	1	18.9		29.1				65	
	1	18.9			17.0 (19)				111
Umatilla River	5	9.8	12.1				81		
	5	9.8		15.4				64	
	5	9.8			9.0 (11-22)				109
Willow Creek	1	9.0	10.7				84		
	1	9.0		9.5				95	
	1	9.0			7.5 (21)				120
John Day River	11	7.9	9.2				86		
	11	7.9		9.3				85	
	11	7.9			6.7 (11-21)				118
Deschutes River	5	27.8	30.2				92		
	5	20.1		21.7				93	
	8	24.6			15.9 (1-20)				155
Crooked River	3	7.4	9.5				78		
	3	7.4		8.3				89	
	3	7.4			5.6 (13-21)				132



Stream Basin	Number of Snow Courses Averaged				Avg. Past yrs. of record	Yrs. of Reco- rd	1951 Snow Water Depth (Inches) as percent of that in		
		1951	1950	1949			1950	1949	Avg.
Sandy River	2	35.4	44.3				80		
	2	35.4		44.0				80	
	2	35.4			25.0	(13)			142
Clackamas River	1	18.0	29.9				60		
	1	18.0		19.0				95	
	1	18.0			11.0	(13)			164
Willamette River	9	27.2	37.2				73		
	9	27.2		33.7				81	
	12	25.1			16.3	(1-20)			154
Silver Lake Basin	1	4.7	4.7				100		
	1	4.7		4.4				107	
	1	4.7			2.7	(11)			174
Chewaucan River	1	5.6	6.0				93		
	1	5.6		6.6				85	
	1	5.6			4.8	(21)			117
Warner Lake	1	7.3	6.5				112		
	1	7.3		9.3				78	
	1	7.3			6.7	(12)			109
Harney Basin	5	4.6	5.1				90		
	5	4.6		6.1				75	
	5	4.6			4.3	(13-18)			107
Umpqua River	3	20.8	31.1				67		
	4	19.1		23.0				83	
	4	19.1			14.2	(6-22)			134
Upper Rogue River	11	16.3	18.9				86		
	9	17.6		17.3				102	
	11	16.3			12.6	(3-18)			129
Applegate River	2	17.5	21.7				81		
	5	16.6		16.0				104	
	5	16.6			13.3	(9-15)			125
Illinois River	1	4.3	11.4				38		
	2	8.8		8.5				104	
	2	8.8			8.2	(12-13)			107
Klamath Lake Basin*	17	11.1	11.4				97		
	18	10.3		10.6				97	
	19	10.5			7.8	(5-24)			135
Goose Lake Basin*	2	6.4	6.2				103		
	3	6.4		9.1				70	
	3	6.4			5.7	(8-21)			112

\* Including Copco water measurement stations.



# IMPORTANT OREGON RESERVOIRS



RESERVOIR NAME	NUMBER
Agency Valley	1354
Antelope	1230
Clear Lake	823
Clear Lake	36R1
Cold Springs	22R1
Cottage Grove	5220
Cottonwood	9115
Crane Prairie	3220
Crescent Lake	322
Drew Creek	814
Emigrant Gap	7267
Fern Ridge	5413
Fish Lake	7237
Four Mile Lake	8321
Gerber	8215
Hyatt Prairie	8320
McKay	2231
Ochoco	3420
Owyhee	1234
Rack Creek	36R3
Thief Valley	1514
Thompson Valley	9411
Unity	1415
Upper Klamath Lake	832
Wallowa Lake	186
Warm Springs	1322
Wickiup	3137
Willow Creek No. 3	1323



STATUS OF RESERVOIR STORAGE, FEBRUARY 1, 1951

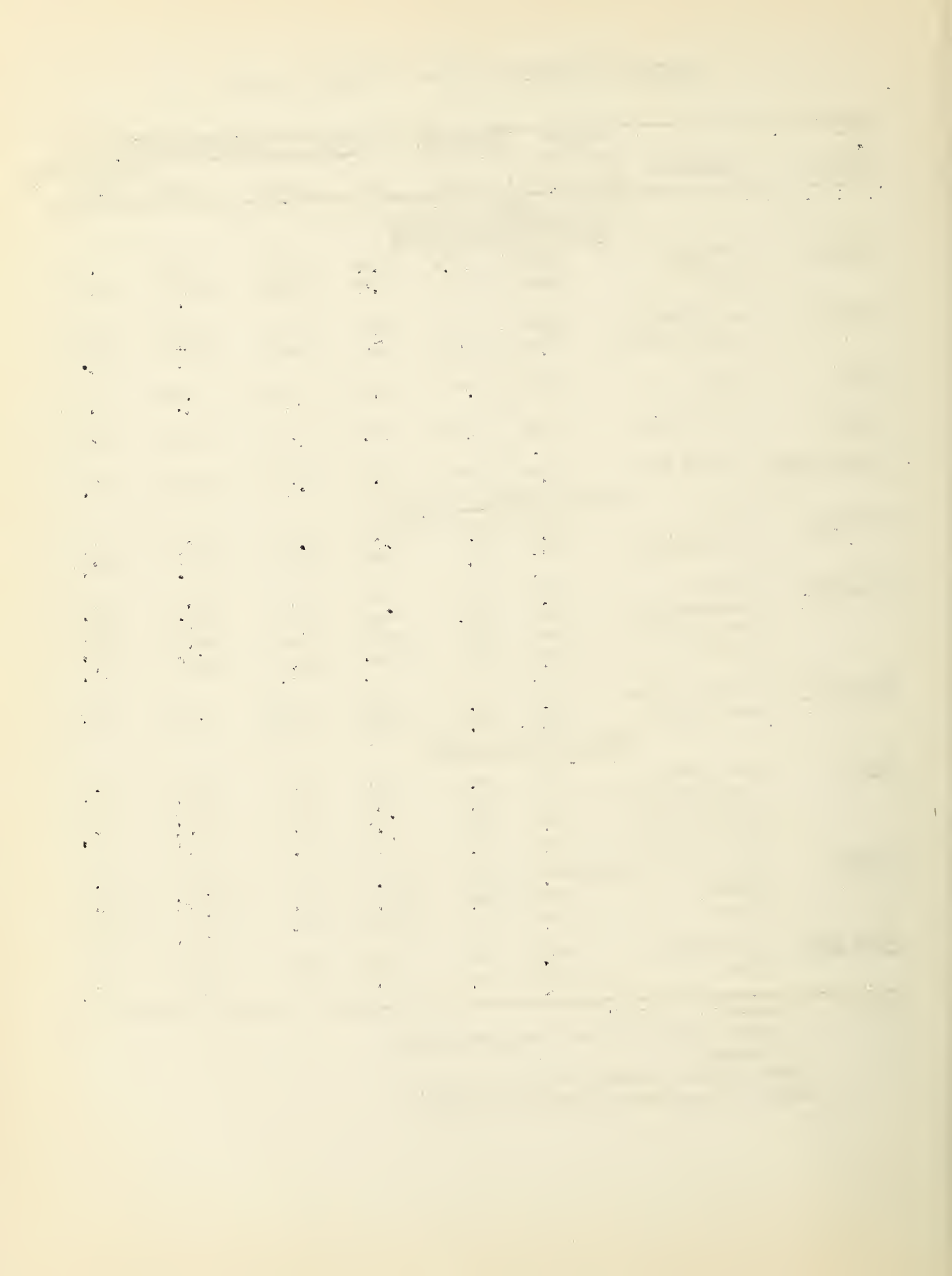
BASIN and STREAM	RESERVOIR	USABLE	THOUSANDS ACRE FEET IN STORAGE ABOUT FEB. 1				
		CAPACITY (Thous.A.F.)	1951	1950	1949	1948	10 year avg. 1940-49
UPPER COLUMBIA DRAINAGE							
LOWER SNAKE IN OREGON							
<u>Owyhee</u>	Antelope	36.5	N.R.	1.0	0.0	3.8	2.7
	Owyhee	715.0	451.2	377.6	270.9	310.1	447.6
<u>Malheur</u>	Warm Springs	191.0	20.8	11.7	14.3	25.1	84.2
	Agency Valley	60.0	13.6	18.9	35.2	35.6	38.2
<u>Burnt</u>	Unity	25.2	9.1	2.4	8.5	4.6	8.9
<u>Powder</u>	Thief Valley	17.4	N.R.	N.R.	2.1	17.4	11.5
<u>Grande Ronde</u>	Wallowa Lake	40.9	18.8	12.5	19.0	18.1	19.9
LOWER COLUMBIA DRAINAGE							
<u>Umatilla</u>	McKay	74.0	57.1	25.2	26.2	53.7	37.1
	Cold Springs	50.0	41.7	21.0	23.8	38.2	28.4
<u>Deschutes</u>	Ochoco	46.0	33.7	1.8	30.4	20.9	19.3
	Crescent Lake	57.0	52.8	53.9	52.4	43.8	36.3
	Crane Prairie	50.0	50.0	35.0	34.7	39.4	32.5
	Wickiup	180.0	167.0	172.4	161.1	122.2	63.5
<u>Willamette</u>	Cottage Grove	30.1 <sup>b</sup>	0.0 <sup>b</sup>	0.1 <sup>b</sup>	0.0 <sup>b</sup>	0.3 <sup>b</sup>	0.1 <sup>b</sup>
	Fern Ridge	94.2 <sup>b</sup>	42.0 <sup>b</sup>	55.9 <sup>b</sup>	1.2 <sup>b</sup>	1.6 <sup>b</sup>	8.4 <sup>b</sup>
WEST COAST DRAINAGE							
<u>Rogue</u>	Fish Lake	7.8	5.2	4.6	4.9	3.2	4.1
	Fourmile Lake <sup>a</sup>	16.1	10.9	7.0	7.2	2.1	5.4
	Emigrant Gap	8.3	6.4	4.0	5.3	8.3	5.2
	Hyatt Prairie <sup>a</sup>	16.2	4.0	3.7	7.1	2.8	4.3
<u>Klamath</u>	Upper Klamath Lake	584.0 <sup>c</sup>	443.7 <sup>c</sup>	248.0 <sup>c</sup>	267.8 <sup>c</sup>	280.0 <sup>c</sup>	315.2 <sup>c</sup>
	Gerber	94.0	25.2	15.4	14.6	20.9	33.8
	Clear	440.2	99.8	102.8	135.4	145.1	214.8
<u>Goose Lake</u>	Cottonwood	4.1	0.0	0.4	0.0	0.0	0.1
	Drew	62.5	48.0	36.2	37.3	22.3	33.2

N.R. - No Report

a - By Ditch to Rogue River side from Klamath Drainage

b - Storage space reserved for flood control

c - Based on gage zero elevation of 4135.0



VALLEY PRECIPITATION<sup>a</sup>

DRAINAGE DIVISIONS	CURRENT YEAR		LAST YEAR	
	Oct. 1, 1950 - Feb. 1, 1951		Oct. 1, 1949 - Feb. 1, 1950	
	P	D	P	D
Southeastern	4.77	+ 0.79	3.65	-0.70
Southcentral	6.41	+ 2.16	2.83	-1.39
Central	10.18	+ 3.65	10.20	+1.05
Columbia River	12.34	+ 4.68	8.62	+0.62
Wallowa Mountains	7.27	+ 0.02	6.67	+0.28
Blue Mountains	7.54	+ 1.03	7.04	+0.35
Southern	22.74	+ 9.99	12.94	-0.19
Willamette Valley	45.91	+17.90	32.26	+4.83

P - Inches Precipitation

D - Inches Departure from Normal

<u>Southeastern</u> -	Malheur and Owyhee drainages.
<u>Southcentral</u> -	Interior Basin drainages and Goose Lake.
<u>Central</u> -	Deschutes and Crooked drainages.
<u>Columbia River</u> -	Lower valleys of the Walla Walla, Umatilla, John Day, Deschutes and Hood River drainages.
<u>Wallowa Mountains</u> -	Imnaha, Wallowa, Catherine, Eagle and Pine drainages.
<u>Blue Mountains</u> -	Upper valleys of the Burnt, Powder, Grande Ronde, Umatilla, Walla Walla, John Day, Silvies and Malheur drainages.
<u>Southern</u> -	Umpqua, Rogue and Klamath drainages.
<u>Willamette Valley</u> -	All Willamette drainages.

a - Preliminary data computed from Weather Bureau records.



## OREGON SNOW SURVEYS, FEBRUARY, 1951

DRAINAGE BASIN and SNOW COURSE		LOCATION		SNOW COVER MEASUREMENTS							
Number or State	Sec. Twp. Range	Elev.	Date of Survey	Snow Depth (In.)	Water Content (In.)				Years of Record	Past Record Av. Water Content (Inches)	
					1951	1950	1949	Record			
UPPER COLUMBIA DRAINAGE											
LOWER SNAKE IN REGION											
OWYHEE RIVER											
Big Bend	Nev. 6	30	45N	56E	6700	1-31	31.4	8.5*	7.5	3	10.4
Fry Canyon	Nev. 7	32	43N	54E	6800	1-31	22.3	6.0*	6.1	1	6.1
Gold Creek	Nev. 5	31	45N	56E	6600	1-31	20.3	5.2*	4.5	2	5.2
Rodeo Flat	Nev. 8	31	43N	54E	7000	1-31	19.8	6.2*	7.1	1	7.1
South Mountain No. 2	Idaho	35	7S	5W	6340	2-1	21.0	7.6*	7.5	10	8.4
MALHEUR RIVER											
Blue Mountain Springs	133	21	15S	35E	5900	1-29	43.5	10.4	9.1	20	9.5
Rock Spring	134	23	18S	32E	5100	1-30	17.9	4.3	4.2	15	4.4
Stinkingwater	135	33	21S	34E	4800	2-1	12.6	4.2	4.9	13	5.3
BURNT RIVER											
Blue Mountain Summit	141	6	12S	36E	5098	1-31	28.5	6.8	7.0	16	5.9
Dooley Mountain	156	32	11S	40E	5430	2-1	24.6	7.1	5.9	12	6.0
POWDER RIVER											
Anthony Lake	155	18	7S	37E	7125	2-3	61.0	14.6*	-	10	18.9
Bourne	154	33	8S	37E	5800	No Report		-	-	12	9.0
Dooley Mountain	156	32	11S	40E	5430	2-1	24.6	7.1	5.9	12	6.0
Eilertson Meadows	151B	18	8S	38E	5400	1-29	53.4	15.3	-	11	6.9
Gold Center	249	21	9S	36E	5340	2-1	37.3	10.5	11.3	11	7.6
Goodrich Lake	157	34&35	8S	38E	6775	No Report		-	-	2	23.6

\* Telegraphic - Subject + minor revision.



OREGON SNOW SURVEYS, FEBRUARY, 1951

LOCATION		SNOW COVER MEASUREMENTS											
DRAINAGE BASIN and SNOW COURSE	Number or State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth, (In.)	Water Content (In.)			Years of Record	Past Record Av. Water Content (Inches)	
								1951	1950	1949			
PINE CREEK													
Schneider Meadows	161	35	6S	45E	5400	1-28	68.2	20.6	17.6	21.3	13	18.7	
IMMAHA RIVER													
Aneroid Lake No. 1	183	16	4S	45E	7480	1-27	76.8	24.1	26.2	23.3	21	19.5	
Aneroid Lake No. 2	183A	16	4S	45E	7000	1-27	57.6	20.0	18.8	17.4	9	17.6	
GRANDE RONDE RIVER													
Aneroid Lake No. 1	183	16	4S	45E	7480	1-27	76.8	24.1	26.2	23.3	21	19.5	
Aneroid Lake No. 2	183A	16	4S	45E	7000	1-27	57.6	20.0	18.8	17.4	9	17.6	
Anthony Lake	155	18	7S	37E	7125	2-3	61.0	14.6*	-	24.0	10	18.9	
Beaver Reservoir	188	8	5S	37E	5340	2-5	30.2	6.6	11.5*	14.2	12	8.7	
Camp Carson	187	33	6S	36E	5970	1-28	25.0	6.3	9.6	11.3	8	7.1	
Meacham	221	24&25	1S	35E	4300	1-29	22.1	6.2	9.4	13.5	22	6.3	
Moss Spring	186A	28	3S	41E	5850	1-29	48.3	14.8	16.7	21.5	13	15.2	
Tollgate	212	32	4N	38E	5070	1-29	54.1	18.9	20.5	29.1	19	17.0	
LOWER COLUMBIA DRAINAGE													

LOWER COLUMBIA DRAINAGE

\* Telegraphic - Subject to minor revision.



OREGON SNOW SURVEYS, FEBRUARY, 1951

DRAINAGE BASIN and SNOW COURSE	LOCATION			SNOW COVER MEASUREMENTS							
	Number or State	Sec. Twp. Range	Elev.	Date of Survey	Snow Depth (In.)	Water Content (In.)			Past Record Years of Record	Av. Water Content (Inches)	
						1951	1950	1949			
UMATILLA RIVER (Cont'd.)											
Lucky Strike	223	28 3S 32E	5050	1-30	36.1	10.0	10.9	11.2	11	8.1	
Meacham	221	24&25 1S 35E	4300	1-29	22.1	6.2	9.4	13.5	22	6.3	
Tollgate	212	32 4N 38E	5070	1-29	54.1	18.9	20.5	29.1	19	17.0	
WILLOW CREEK											
Arbuckle Mountain	241	33 4S 29E	5400	1-30	31.4	9.0	10.7	9.5	21	7.5	
JOHN DAY RIVER											
Arbuckle Mountain	241	33 4S 29E	5400	1-30	31.4	9.0	10.7	9.5	21	7.5	
Beech Creek Summit	246A	4 12S 30E	4800	1-29	16.7	5.1	7.6	5.0	14	4.1	
Blue Mountain Springs	133	21 15S 35E	5900	1-29	43.5	10.4	9.1	11.9	20	9.5	
Blue Mountain Summit	141	6 12S 36E	5098	1-31	28.5	6.8	7.0	8.9	16	5.9	
Derr	343	14 13S 23E	5670	1-29	29.4	7.3	10.5	7.8	13	6.3	
Gold Center	249	21 9S 36E	5340	2-1	37.3	10.5	11.3	9.8	11	7.6	
Izee Summit	964	28 16S 29E	5293	2-1	23.9	5.4	7.4	8.9	15	6.0	
Marks Creek	344	25 12S 19E	4540	1-30	18.9	4.9	7.9	5.9	13	3.6	
Ochoco Meadows	341	21 13S 20E	5200	1-31	31.8	10.1	10.1	11.3	21	6.9	
Olive Lake	245	14 9S 33½E	6000	1-28	45.6	13.3	12.7	17.0	15	10.8	
Starr Ridge	247B	20 15S 31E	5150	2-1	17.5	4.6	6.0	6.4	15	4.1	
CROOKED RIVER											
Derr	343	14 13S 23E	5670	1-29	29.4	7.3	10.5	7.8	13	6.3	
Mark's Creek	344	25 12S 19E	4540	1-30	18.9	4.9	7.9	5.9	13	3.6	
Ochoco Meadows	341	21 13S 20E	5200	1-31	31.8	10.1	10.1	11.3	21	6.9	



OREGON SNOW SURVEYS, FEBRUARY, 1951

DRAINAGE BASIN and SNOW COURSE	LOCATION		SNOW COVER MEASUREMENTS									
	Number or State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (In.)	Water Content (In.)				Past Record
								1951	1950	1949	Years of Record	

DESCHUTES RIVER

Caldwell Ranch	326	30	21S	8E	4400	1-25	36.0	11.0 <sup>a</sup>	-	9.8 <sup>b</sup>	8	5.6
Cascade Summit	321	7	23S	6E	4880	1-31	69.2	26.0	33.3	32.1	20	19.8
Chemult	834	21	27S	8E	4760	2-1	38.9	12.3	11.4	8.2	14	7.4
Crescent Lake	325	11	24S	6E	4760	2-1	45.2	14.0	-	15.0	14	8.4
Hogg Pass	351	24	13S	7 $\frac{1}{2}$ E	4755	2-2	102.2	37.4	42.1	43.4	13	25.0
New Dutchman Flat	324A	21	18S	9E	6400	1-31	122.9	44.0	42.6	-	3	35.3
Three Creeks Meadows	331	3	17S	9E	5600	1-31	59.8	19.5	21.4	-	18	11.0
Willamette Pass	323	21	24S	5 $\frac{1}{2}$ E	5600	1-30	95.6	32.6	-	-	1	14.4
Windigo Pass	744	20	25S	6E	5800	1-30	116.6	36.4	-	-	-	-

HOOD RIVER

Greenpoint Reservoir	433	28	2N	9E	3400	No Report			29.0	24.9	3	20.4
Red Hill	434	21	1S	9E	4400	No Report			45.8	73.5 <sup>c</sup>	3	47.6
Tilly Jane - Mt. Hood	432	15	2S	9E	6000	1-28	112.8	40.4	39.6	41.6	3	33.2

WILLAMETTE VALLEY STREAMS

SANDY RIVER

Phlox Point - Mt. Hood	452	6	3S	9E	5600	2-1	121.3	48.6	56.7	56.4	13	35.8
Still Creek	451	25	3S	8 $\frac{1}{2}$ E	3700	2-1	59.9	22.1	31.9	31.5	13	14.2

a Partly estimated

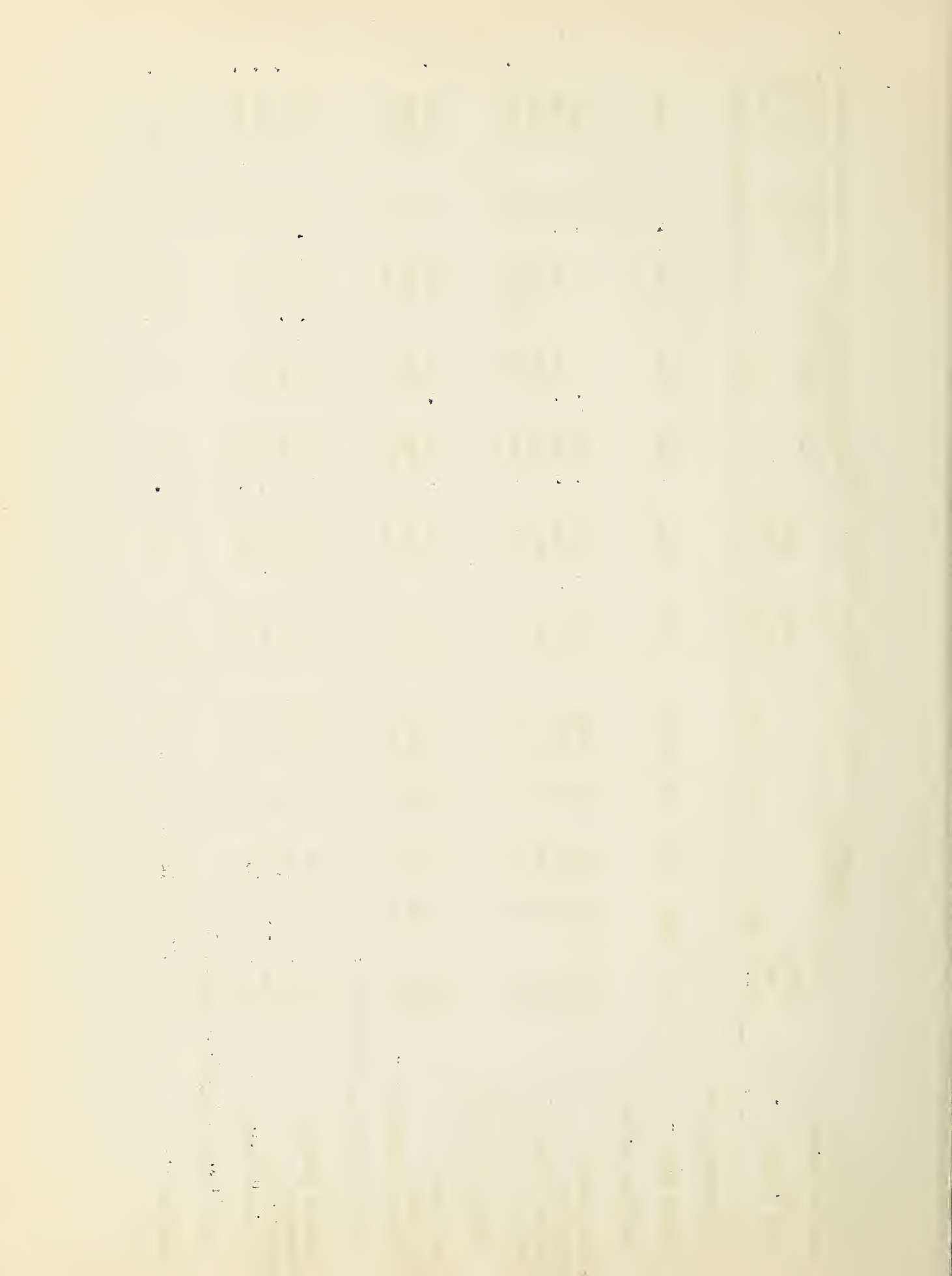
b January 13

c February 13



OREGON SNOW SURVEYS, FEBRUARY, 1951

DRAINAGE BASIN and SNOW COURSE	LOCATION		SNOW COVER MEASUREMENTS									
	Number or State	Sec. Twp. Range	Elev.	Date of Survey	Snow Depth (In.)	Water Content (In.)			Fast Record Years of Record	Av. Water Content (Inches)		
						1951	1950	1949				
CLACKAMAS RIVER												
Peavine Ridge	591	14&15	6S	7E	3500	2-3	55.3	18.0	29.9	19.0	13	11.0
SANTIAM RIVERS												
Breitenbush	551	21	9S	7E	2325	2-1	16.3	5.4	-	-	7	3.5
Hogg Pass	351	24	13S	7 $\frac{1}{2}$ E	4755	2-2	102.2	37.4	42.1	43.4	13	25.0
Marion Forks	553	28	11S	7E	2730	2-2	36.2	13.2	27.8	20.2	10	10.1
Santiam Junction	552	14	13S	7E	3990	2-2	61.4	24.1	33.8	28.8	10	16.3
MCKENZIE RIVER												
Hogg Pass	351	24	13S	7 $\frac{1}{2}$ E	4755	2-2	102.2	37.4	42.1	43.4	13	25.0
McKenzie	531	35	15S	7 $\frac{1}{2}$ E	4800	2-1	95.5	34.6	41.5	41.1	7	22.9
Santiam Junction	552	14	13S	7E	3990	2-2	61.4	24.1	33.8	28.8	10	16.3
MIDDLE FORK WILLAMETTE RIVER												
Cascade Summit	321	7	23S	6E	4880	1-31	69.2	26.0	33.3	32.1	20	19.8
Champion	522	12	23S	1E	4500	2-1	45.4	20.8	38.2	31.1	12	15.5
Waldo Lake	521A	15	21S	6E	5500	1-28	73.4	20.4	-	-	5	7.4
Willamette Pass	323	21	24S	5 $\frac{1}{2}$ E	5600	1-30	95.6	32.6	-	-	1	14.4
COAST FORK WILLAMETTE RIVER												
Champion	522	12	23S	1E	4500	2-1	45.4	20.8	38.2	31.1	12	15.5



OREGON SNOW SURVEYS, FEBRUARY, 1951

DRAINAGE BASIN and SNOW COURSE	LOCATION		SNOW COVER MEASUREMENTS					
	Number or State	Sec. Twp. Range Elev.	Date of Survey	Snow Depth (In.)	Water Content (In.)		Years of Record	Past Record Av. Water Content (Inches)
MARY'S RIVER								
Mary's Peak	541	21 12S 7W 3620	Not measured		-	18.7	10	5.8
SILVER LAKE								
Silver Creek	942	25&26 29S 13E 4900	1-30	14.6	4.7	4.7	11	2.7
CHEWaucan RIVER								
Quartz Mountain	811	2 38S 16E 5320	2-1	16.0	5.6	6.6	21	4.8
HARNEY BASIN								
Idylwild Camp	961A	33 20S 31E 5200	1-30	17.6	4.4	5.2	18	3.8
Izee Summit	964	28 16S 29E 5293	2-1	23.9	5.4	8.9	15	6.0
Lock Spring	134	23 18S 32E 5100	1-30	17.9	4.3	5.8	15	4.4
Starr Ridge	247B	20 15S 31E 5150	2-1	17.5	4.6	6.4	15	4.1
Stinkingwater	135	33 21S 34E 4800	2-1	12.6	4.2	4.0	15	3.3
WARNER LAKE								
Camas Creek	911A	5 39S 21E 5720	1-29	22.8	7.3	9.3	12	6.7
UMFqua RIVER								
Champion	522	12 23S 1E 4500	2-1	45.4	20.8	31.1	12	15.5

W E S T C O A S T D R A I N A G E



## OREGON SNOW SURVEYS, FEBRUARY, 1951

DRAINAGE BASIN and SNOW COURSE	LOCATION					SNOW COVER MEASUREMENTS							
	Number or State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (In.)	Water Content (In.)			Years of Record	Past Record av. Water Content (Inches)	
								1951	1950	1949			
UMPQUA RIVER (Cont'd.)													
Diamond Lake	743	29	27S	6E	5315	1-30	55.2	19.2	23.5	19.1	22	13.2	
N. Umpqua nr. Lake Cr.	742	19	26S	6E	4215	1-26	40.7	13.9	-	15.6 <sup>b</sup>	6	5.7	
Whaleback	7217	3	31S	2E	5140	1-28	68.1	22.5	31.5	26.1	11	22.2	
Windigo Pass	744	20	25S	6E	5800	1-30	116.6	36.4	-	-	-	-	
ROGUE RIVER													
Althouse	7216	17	41S	7W	4400	1-31	13.8	4.3	11.4	3.8	12	2.8	
Annie Spring	831	19	31S	6E	6018	2-1	112.3	39.0	29.0	31.5	18	26.0	
Big Red Mountain	729	31	40S	1W	6500	1-30	62.6	20.3	-	17.4	13	16.6	
Billie Creek Divide	722	30	36S	5E	5300	1-31	40.0	14.0	20.0	-	18	14.6	
Fish Lake	725	3	37S	4E	4865	1-30	20.1	6.8	13.8	-	16	8.7	
Grayback Peak	727	9	40S	5W	6000	2-1	39.4	13.2	-	13.2	13	13.6	
Hobart Lake	7221	17	40S	3E	5010	1-30	17.3	6.4	9.0	6.6	3	5.3	
Hyatt Prairie Res.	723	15	39S	3E	4900	1-30	22.6	5.8	9.9	10.2	16	6.6	
Little Red Mtn.	7210	25	40S	2W	6500	1-30	41.4	14.5	-	13.6	12	10.8	
Park Headquarters	838	8	31S	6E	6450	2-1	133.7	49.6	39.8	38.1	5	30.1	
Scrapp Mtn. (Calif.)	7220	9	47N	10W	6200	1-28	58.4	23.9	27.7 <sup>c</sup>	22.0	9	15.7	
Silver Burn	7219	30	30S	4E	3720	2-1	34.2	11.7	12.3	13.3	13	7.4	
Siskiyou Summit	728	17	40S	2E	4630	2-5	29.2	8.8	10.4	8.4	14	4.8	
South Fork Canal	7218	12	33S	3E	3500	2-1	9.3	3.4	11.1	7.6	13	2.7	
Wagner Butte	7213	1	40S	1W	6900	1-31	30.4	11.1	15.7	14.0	15	10.0	
Whaleback	7217	3	31S	2E	5140	1-28	68.1	22.5	31.5	26.1	11	22.2	
KLAMATH LAKE BASIN													
Amnie Spring	831	19	31S	6E	6018	2-1	112.3	39.0	29.0	31.5	18	26.0	
Beatty 2/		22	36S	12E	4300	1-31	0.0	0.0	0.4	1.2	23	0.8	

<sup>b</sup> January 15<sup>c</sup> February 11



OREGON SNOW SURVEYS, FEBRUARY, 1951

DRAINAGE BASIN and SNOW COURSE	LOCATION		Number or State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (In.)	SNOW COVER MEASUREMENTS				
										Water Content (In.)		Years of Record	Av. Water Content (Inches)	
										1951	1950			1949
KLAMATH LAKE BASIN (Cont'd.)														
Billie Creek Div.	722	30	36S	5E		5300		1-31	40.0	14.0	20.0	-	18	14.6
Bly 101 Ranch 2/		22	35S	14E		4800		1-31	7.5	2.5 <sup>a</sup>	2.9	4.2	24	2.0
Chemult No. 1	834	21	27S	8E		4760		2-1	38.9	12.3	11.4	8.2	14	7.4
Chiloquin 2/		34	34S	7E		4187		1-31	5.8	2.6	6.5	2.0	21	2.1
Crowder Flat (Calif.)		30	47N	11E		5200		1-31	9.6	2.5	2.5	5.1	11	2.7
Crystal 2/		26	34S	6E		4200		1-31	21.0	6.5	7.8	11.0	21	6.2
Fort Klamath 2/		22	33S	7½E		4150		1-31	10.8	4.2	7.7	5.6	24	5.8
Gerber	839	12	39S	13E		4850		Measurement delayed			3.5	4.8	2	4.2
Harriman Lodge 2/		3	36S	6E		4200		1-31	12.0	3.6	5.2	6.5	24	3.7
Hyatt Prairie Reser.	723	15	39S	3E		4900		1-30	22.6	5.8	9.9	10.2	16	6.6
Kirk 2/		1	33S	7E		4533		2-1	26.5	7.4	8.5	8.5	24	5.2
Lake of the Woods	835	11	37S	5E		4960		1-29	18.8	6.0	13.7	11.8	14	6.2
Park Headquarters	838	8	31S	6E		6450		2-1	133.7	49.6	39.8	38.1	5	30.1
Quartz Mountain	811	2	38S	16E		5320		2-1	16.0	5.6	6.0	6.6	21	4.8
Strawberry	837	4	40S	16E		5600		2-6	25.0	6.4	-	11.3	8	5.5
Sun Mountain	836	22	32S	7½E		5350		1-30	73.2	24.5	18.9	19.3	13	15.9
Taylor Butte	842	16	33S	11E		5100		1-31	18.4	5.0	-	4.8	13	3.3
Yamsey 2/		20	31S	11E		4600		1-30	13.5	4.4	4.6	4.1	20	2.1

GOOSE LAKE BASIN

Camas Creek		911A	5	39S	21E	5720		1-29	22.8	7.3	6.5	9.3	12	6.7
Quartz Mountain		811	2	38S	16E	5320		2-1	16.0	5.6	6.0	6.6	21	4.8
Strawberry		837	4	40S	16E	5600		2-6	25.0	6.4	-	11.3	8	5.5

2/ Water content determined by melting one measured sample (The California Oregon Power Company's Station).  
a Partly estimated



The following organizations cooperate in the Oregon snow survey work:

STATE

Idaho Cooperative Snow Surveys  
Nevada Cooperative Snow Surveys  
Oregon Agricultural Experiment Station  
Oregon State Engineer and corps of State Watermasters  
Oregon State Highway Engineers

FEDERAL

Department of Agriculture  
Forest Service  
Soil Conservation Service  
Department of Commerce  
Weather Bureau  
Department of the Interior  
Bonneville Power Administration  
Bureau of Reclamation  
Fish and Wildlife Service  
Geological Survey  
Indian Service  
National Park Service  
War Department  
Army Engineer Corps

PUBLIC UTILITIES

California-Pacific Utilities Company  
Portland General Electric Company  
The California Oregon Power Company

MUNICIPALITIES

City of Baker  
City of Corvallis  
City of LaGrande  
City of The Dalles

IRRIGATION DISTRICTS

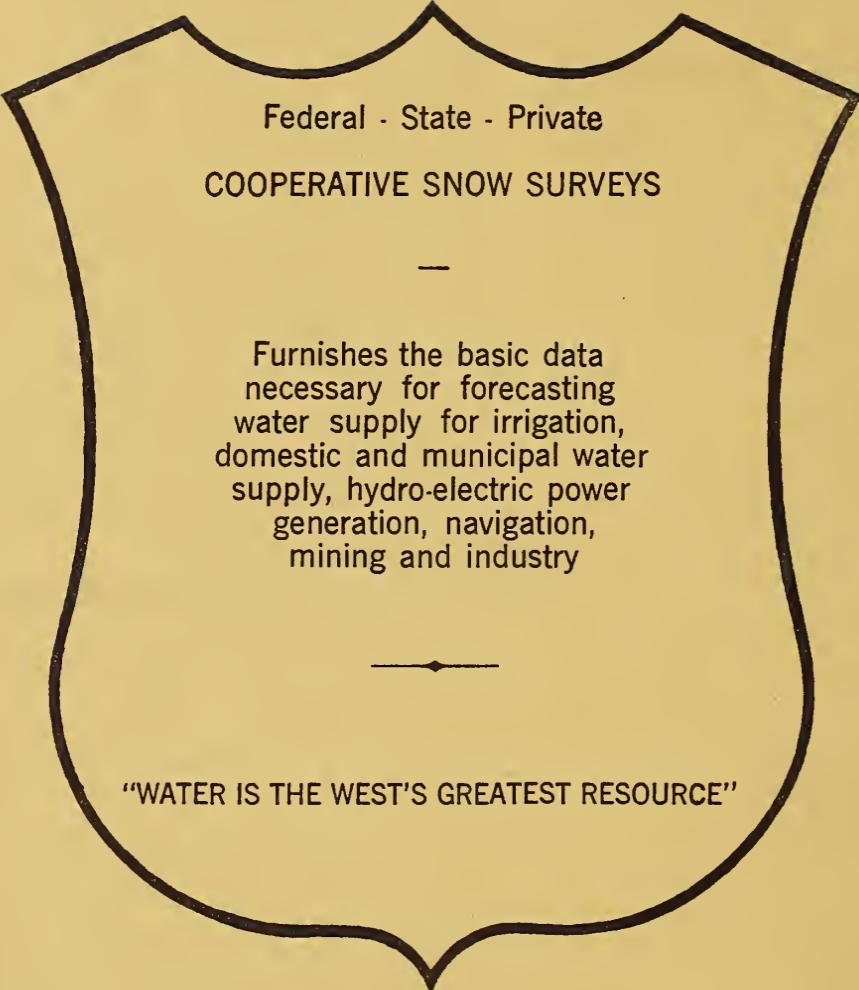
Associated Ditch Companies  
Central Oregon Irrigation District  
Deschutes County Municipal Improvement District  
East Fork Irrigation District  
Grants Pass Irrigation District  
Jordan Valley Irrigation District  
Lakeview Water Users Incorporated  
Medford Irrigation District  
Ochoco Irrigation District  
Rogue River Irrigation District  
Talent Irrigation District  
Vale-Oregon Irrigation District  
Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

Amalgamated Sugar Company  
South Wasco Soil Conservation District  
The Crag Rats-Hood River-Oregon







Federal - State - Private  
COOPERATIVE SNOW SURVEYS

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Furnishes the basic data  
necessary for forecasting  
water supply for irrigation,  
domestic and municipal water  
supply, hydro-electric power  
generation, navigation,  
mining and industry

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"WATER IS THE WEST'S GREATEST RESOURCE"